afaanz
Accounting & Finance Association of Australia and New Zealand

Institutional Investors, Risk/Return and Corporate Governance: Practical Lessons from the Global Financial Crisis.

PDF
0.3MB

Marion Hutchinson
Queensland University of Technology
Australia

Michael Seamer
University of Newcastle
Australia

Ellie Chapple
Queensland University of Technology
Australia

Abstract:
The global growth in institutional investors means that firms can no longer ignore their influence in capital markets. However, not all institutional investors have the same motives to influence the firms they invest in. Institutional investors' ability to influence management depends on the size of their investment and whether they have any business relations with the firm. Using a sample of Australian firms from 2006 to 2008, our empirical results show that the proportion of a company's shares held by institutional investors is positively associated with firm governance ratings, risk and profitability. This study shows that a positive association between risk and return is associated with large active institutional ownership, which we interpret as shareholders with sufficient power to pressure management to increase short-term profits.

Institutional Investors, Risk/Return and Corporate Governance: Practical Lessons from the Global Financial Crisis.

Abstract:

The global growth in institutional investors means that firms can no longer ignore their influence in capital markets. However, not all institutional investors have the same motives to influence the firms they invest in. Institutional investors' ability to influence management depends on the size of their investment and whether they have any business relations with the firm. Using a sample of Australian firms from 2006 to 2008, our empirical results show that the proportion of a company's shares held by institutional investors is positively associated with firm governance ratings, risk and profitability. This study shows that a positive association between risk and return is associated with large active institutional ownership, which we interpret as shareholders with sufficient power to pressure management to increase short-term profits.

Introduction

The purpose of this paper is twofold. First, we determine whether firms' governance practices are important to institutional investors and second, we investigate whether institutional investors differ in their influence over management and firm performance. We hypothesize that, first, corporate governance significantly influences the size of institutional investment and, second, a positive association between risk and return depends on the type and size of institutional investment. In particular, in examining the investment preferences and priorities of institutional investors, we distinguish the motivations of two different types of institutional investors – active investors and passive investors. This distinction is primarily determined by the nature and existence of other business relationships between the firm and its institutional investor.

As early on as Black (1998), empirical studies have tested the elusive - do institutional investors have any impact on the performance of listed companies? Prior studies examine various events or outcomes such as CEO turnover and attribute this to institutional monitoring based on the size of ownership. Moreover, there are various ways to measure performance, including stock price movements, as well as accounting measures such as Tobin's Q, which may contribute to the lack of consensus regarding the impact of institutional investors. In our study, we model the size and type (distinguished by active or passive investment) of institutional ownership as a function of corporate governance. Next we determine whether the size and type of institutional investor has any influence over the association between risk and return, measured as earnings per share. This is important for two reasons: first, the study distinguishes between active and passive institutional owners, not just the size of ownership, and second, the investigation is during the period leading up the global financial crisis, when risk is high and performance at the firm level is critical.

There is a branch of research devoted to the impact of activist institutional investors on the firms they invest in. For example, Gillan and Starks (2007) provide a comprehensive overview of the literature examining activism and its outcomes. However, it is still controversial, as Gillan and Starks (2007) note, the influence of institutional investors on the relationship between corporate governance and firm performance, due to inter alia, numerous measures of influence.[1] In their recent review article, Brown, Beekes and Verhoeven (2011) acknowledge that an under-researched question is whether outside shareholders with a large stake are active in ways that improve firm performance. Further, they posit that it is more interesting to study the different incentives across institutional investor categories. Consequently, further research is required in order to establish whether institutional investors consider the governance practices of the firms in which they invest and whether institutional investors actively monitor the risk and return of these firms.

The global financial crisis provides a unique setting to determine the consequences of institutional investors' involvement in and influence over corporate management and board behaviour in the period leading up to the crisis. Our results show that during a period of increasing risk, as measured by the standard deviation of returns, the size of institutional investment is positively associated with high risk firms as well as firms with high governance quality as measured by a comprehensive governance rating system[2]. Further investigation reveals that extensive risk management and top-tier auditors are important to both active and passive institutional investors as demonstrated by the positive association between the proportion of active and passive institutional investment and these governance factors.

[1] "Chief among them [large shareholders] are short-term stock market reactions to announcement of shareholder initiatives, longer-term stock market and operating performance, outcomes of votes on shareholder proposals, and changes in corporate strategy and investment decisions in response to activism." (Page 64).
[2] Our measure of governance is provided by the Horwath-University of Newcastle Corporate Governance Reports (2006-2008).

Passive investors have business relationships with firms, and may be less willing to challenge management decisions, while active investors do not have business relationships with the firms are more likely to contest management. Consequently, we find board independence is only important to passive institutional investors due to the importance of independent board monitoring arising from their business relationship with the investee company.

The results of this study find that only active institutional owners have any influence over earnings as we find a positive association between risk and returns depends on a high proportion of ownership by active institutional investors. When active institutional ownership is low, there is a negative association between risk and return. There is no significant association between risk and return for the proportion of passive institutional investment. These results suggest when active institutional investors own high stakes in the firm they have sufficient power to pressure management to increase short-term profits. The results of this study are important because they shed some light on the influence of different types of investors in periods of increasing risk.

Background and Hypothesis Development

The monitoring role of institutional investors

Prior research argues that because all shareholders, both large and small, benefit from the actions of monitoring shareholders without incurring costs, only large shareholders have significant incentives to monitor management (Shleifer and Vishny, 1986; Noe, 2002). In addition, large investors are more active monitors of management because they receive more of the benefits of monitoring (Shliefer and Vishny, 1986; Jensen, 1993) and have more to lose from agency conflicts (Alchian and Demsetz, 1972) particularly management horizon problems (Dechow and Sloan, 1991).

When ownership is spread amongst a large number of smaller shareholders, there is no incentive for any single owner to effectively monitor management (Gillian and Starks, 1998). Consequently, institutional investors have the ability to influence management's activities directly through ownership in the firm, and indirectly by trading their shares in the firm (Gillan and Starks, 2003). Heavy selling by these investors can cause the share price to decline, or can be interpreted as bad news thereby triggering sales by other investors, further contributing to a decline in share price (Parrino, Sias, and Starks, 2003; Baysinger, Kosnik, and Turk, 1991) and an ensuing increase in the cost of capital. Subsequently, institutional investors have the capacity to influence corporate management and board behaviour. For example, research in the US finds that higher institutional ownership is associated with higher R&D expenditure (Baysinger et al., 1991; Bushee, 1998; Wahal and McConnell, 2000) and capital expenditure (Wahal and McConnell, 2000), increases the likelihood and frequency of management earnings forecasts (Ajinkya, Bhojraj and Sengupta, 2005), more extensive social, ethical and environmental disclosure (Solomon and Solomon, 2006), and reduces earnings management in Australian firms (Hsu and Koh, 2005). The size of institutional investment is likely to affect their ability to influence management and ensure that they operate in the interests of shareholders (Shleifer and Vishny, 1986) as well as reducing the costs of acquiring information (Johnson et al., 2010).

Several international recommendations suggest that institutional investors should be active monitors of corporate governance (e.g. Hampel Committee, 1998; Walker, 2009) based on the assumption that as large shareholders institutional investors should act more like owners. In Australia, the Association of Superannuation Funds of Australia's (ASFA, 2003[3])

[3] Revised in April 2010.

guidelines for superannuation (pension) fund trustees, encourages them to be active shareowners. ASFA members are large institutional investors with a duty to invest in the best interests of their beneficiaries and are encouraged by ASFA to vote on all company resolutions where they hold shares. Despite these recommendations, pension funds have mainly left relationships with their portfolio companies to their investment managers (Walker, 2009). Hsu and Koh (2005) argue that the frequency of institutional investors' trades and the fragmentation of their ownership preclude active monitoring of the diverse firms in their portfolio.

Although large shareholders have the potential to solve some agency costs, they can also create others. Research also suggests that there are several disincentives for institutional investors to actively participate in the governance of portfolio firms (Stapledon, 1996; Webb, Beck and McKinnon, 2003). Webb et al. (2003) refer to: high transaction costs; the use of index-tracking funds; the inability of investors to influence company strategy; and, the free-ride of other investors on the acquisition cost of the institutional investor. As long as the calculated costs of exit are less than the costs of taking a more active role in the managerial functions, institutional investors are more likely to choose exit, rather than company reform.

Institutional investors (and portfolio managers) are under pressure to show short-term returns as they are rewarded and reviewed based on quarterly, or at most, annual performance results (Aguilera, Rupp, Williams, and Ganapathi, 2007; Baysinger et al., 1991; Graves, 1988). As such, these investors are pre-disposed to supporting investments when there is an immediate association with profits, such as mergers and acquisitions, to maintain short-term competitiveness rather than taking a long-term view in their investment decisions (Graves, 1988). Little is known about the consequences of the exponential growth of institutional

investment and the impact on corporate behaviour. This study empirically determines whether increasing institutional investment, and the type of activism of the institutional owner, is associated with a positive risk/return relationship. Can and should institutional investors effectively identify and monitor for systemic risk?

Institutional investor heterogeneity.

One issue that arises in measuring institutional influence is that not all institutions are willing or able to exert influence. Brickley, Lease and Smith (1988) establish that some institutional investors (e.g., insurance companies and banks through their trust departments) have either existing or potential business relationships with firms, and, therefore, in order to protect those relationships they might be less willing to challenge management decisions (we call these passive institutional investors). Passive institutions face high monitoring costs because they could damage their relationship with firm management and lose existing or potential business if they challenge management directly.

In contrast, institutions such as investment companies, independent investment advisors and public pension funds do not seek business relationships with the firms in which they invest (we call these active institutional investors). Thus, active institutions without potential business ties face lower monitoring costs as they are more likely to directly challenge management (Borokhovich et al. 2006; Chen, Harford and Li, 2007) and may be less reliant on certain governance practices, such as board monitoring, to fulfil their monitoring and fiduciary responsibilities.

Institutional investors and corporate governance

Corporate governance has been investigated as a means of attracting institutional investors (Chung and Zhang, 2011). Research finds that institutional investors are more likely to invest in firms with governance practices that concur with their fiduciary duties (Hawley and Williams, 2000) and to reduce their costs of monitoring (Bushee and Noe, 2000). Prior research suggests that governance practices are associated with less information asymmetry (Byun, Hwang and Lee, 2011), better reporting quality (Beekes and Brown, 2006) and greater transparency (Goodwin, Ahmed and Heaney, 2009; Kent and Stewart, 2008). Consequently, institutional investors are likely to be attracted to firms that follow recommended governance practices regardless of the investor type. Thus, the size of institutional investment is positively associated with firms' governance ratings, which are based on their compliance with recommended governance practices and governance quality.

This leads to our first hypothesis:

H1: Institutional investment is positively associated with governance quality.

However, the results of research testing whether institutional investors invest in firms with certain governance practices are equivocal. This may be a consequence of failing to consider the heterogeneity of institutional investors. Certain governance practices may be more important for passive investors where monitoring costs are high but less important for active investors where monitoring costs are low and they actively monitor the firm thus acting as a substitute for some monitoring activities. Further, in situations of high uncertainty such as high market and firm risk, institutional investors demand more stringent governance practices. Given that we expect institutional investors to have different relationships with the firms in which they invest, certain governance practices are likely to be more (less) important to different types of institutional investor.

Risk management practices.

Agency theory suggests that there are divergent risk preferences of risk-neutral (diversified) shareholders and risk-averse managers, which necessitates monitoring by the board (Jensen and Meckling, 1976; Subramaniam, McManus and Zhang, 2009). Consequently, without monitoring, risk-averse managers may reject profitable (but more risky) projects that are attractive to shareholders who prefer the increased return from higher risk. Excessive managerial risk-taking is not considered problematic because one firm's failure will not affect a diversified investor's portfolio in any directional way. Gordon (2010:4) explains this notion "Competitors of the failed firm may do better; suppliers to the failed firm may do worse, but the consequences are "unbiased." If all firms are taking good bets, however, then on average the diversified investor will be better off".

The challenge, from the shareholder point of view, is how to encourage managers to take all positive net present value investment opportunities despite the likelihood that some will turn out badly with the consequent risk of firm insolvency, which may destroy managers' firm-specific human capital investment. Therefore, how firms manage risk is important to all types of investors. Firms' risk management includes monitoring the level of risk the firm is exposed to while keeping in mind the desire to maximise returns. The firm may have a separate committee (risk management committee), which advises the board on the firm's management of the current risk exposure and future risk strategy (Walker, 2009). It is expected that the firm will make decisions on risk exposure based on their perception of shareholder's interests. Consequently, there will be a positive association between the size of institutional investment and firm risk because research tells us that shareholders prefer more risk (Jensen and Meckling, 1976; Pathan, 2009). This leads to our next hypotheses:

First, we expect a positive association between risk and the size of institutional investment due to the anticipated higher return for greater risk.

H2a: Institutional investment is positively associated with the level of risk.

And second, we expect a positive association between the firm's risk management practices and the size of institutional investment for both types of investors as monitoring the risk exposure of the firm is consistent with the fiduciary duties of institutional investors.

H2b: Institutional investment is positively associated with firms' risk management practices.

Top-tier auditor.

External auditors act as an assurance agent between the financial statements users and management, by providing an opinion on the "true and fair" representation of the financial reports. The report users rely on the auditors in the hope that they can detect any material misstatements or financial fraud in the statements and increase the credibility of the accounting numbers and disclosures (Healy and Palepu, 2001). Investors tend to regard financial reports audited by top-tier auditors (Big 4) as high quality (Teoh and Wong, 1993).

The association of Big 4 auditors and audit quality are so interconnected much research uses Big 4 as a proxy for audit quality (Balsam, Krishnan and Yang, 2003; Bartov, Gul and Tsui, 2000). The auditor literature posits that larger audit firms, often termed top-tier auditor firms, provide higher quality audit services than smaller audit firms (Carcello and Neal, 2000). This is because larger audit firms can access greater resources (Palmrose, 1988), provide more effective quality control over their audits (Watts and Zimmerman, 1981), have greater industry specialization (Dunn, Mayhew and Morsfield, 2004) and have greater reputation

capital at risk (DeFond and Subramanyam, 1998). The literature also suggests top-tier auditors are often associated with client firms with more effective corporate governance (Beasley and Petroni, 2001). Research finds that top-tier audit firms require higher quality annual return disclosure by their clients (Goodwin, Amhed and Heaney, 2009; Kent and Stewart, 2008), are more effective at detecting fraudulent financial reporting (Johnson, Jamal and Berryman, 1991), and are more likely to issue going-concern reports to companies experiencing financial distress (Mutchler, Hopwood and McKeown, 1997) than non top-tier firms.

Institutional investors place considerable reliance on the content and the quality of audited statements (Velury, Reisch and O'Reilly, 2003). Velury et al. (2003) find that audit quality[4] is positively associated with the size of institutional investment. Consequently, the size of institutional investment is likely to depend on the firm being audited by a top-tier auditor, which facilitates institutional investors monitoring and fiduciary responsibilities.

This leads to our next hypothesis:

> *H2c: The size of institutional investment is positively associated with firms audited by a Top-Tier auditor.*

Board monitoring

According to agency theory, the board of directors is a vital component of corporate governance based on the premise that the characteristics of the board members determines the board's ability to monitor and control managers, provide information and counsel to managers, monitor compliance with applicable laws and regulations, and link the corporation to the external environment (Carter, D'Souza, Simkins, and Simpson, 2010). The board

[4] Velury et al. (2003) classify audit quality as auditor industry specialisation.

either directly, or following advice from the risk management committee, monitors the risk the firm is exposed to while keeping in mind the desire to maximise returns. The board oversees management of the firm's current risk exposure and future risk strategy (Walker, 2009). Consequently, institutional investors with greater monitoring costs will favour firms with board structures that comply with recommended governance practice.

The ASX CGC recommends that the board of directors should consist of a majority of independent directors (ASX CGC, 2007). This recommendation reflects an agency theory perspective that independent directors are more representatives of shareholders and therefore better contribute to the provision of independent monitoring of management (Fama and Jensen, 1983; Jensen and Meckling, 1976; Pincus, Rusbarsky and Wong, 1989). While the ASX CGC (2007) do not recommend the size of the board, research suggests that as board size increases, so does the incremental cost of poorer communication, diffusion of responsibility and ineffective decision making (Yermack, 1996). Conversely, a larger board may bring a greater depth of knowledge and diverse skills essential for monitoring risk and compensation practices. Consequently, the size of institutional investment is likely to be associated with the size of the board.

The ASX CGC (2007) also recommends that the chair of the board and the position of CEO should not be held by the same person. When the CEO is also the board chair they may be motivated to act opportunistically, undertaking such activities as empire building and excessive or unrelated diversification without independent oversight (Baysinger and Hoskisson, 1990). Jensen (1993) argues that management domination of the board is particularly evident when the CEO also serves as board chair. Combining these roles reduces the board's ability to adequately monitor management for two reasons. Firstly, it renders the

board less reliant on independent directors and secondly, it creates a potential for conflict as the dual CEO/board chair attempts to represent both management and shareholders.

The empirical evidence supports the premise that boards with dual CEO/chairs are less effective in controlling management than boards where the roles are segregated. For example Forker (1992) finds firms with a non-executive chairman are more likely to disclose information about share options than firms chaired by a CEO. Research finds that firms with a CEO who simultaneously serves as board chair are also more likely to misstate financial statements (Efendi, Srivastava and Swanson, 2007), have announcement returns of greater magnitude (Masulis, Wand and Xie, 2007) and manipulate earnings (Dechow, Sloan and Sweeney, 1996) than firms where the roles are segregated. Da Silva Rosa, Filippetto and Tarca (2008) investigate a sample of Australian companies subject to ASIC action in relation to a range of disclosure, accounting and other governance matters and find these companies were less likely to comply with ASX best practice, particularly with respect to segregation of the roles of CEO and board chair.

We suggest that the corporate governance characteristics that relate to board monitoring are only important to passive institutional investors because they face higher monitoring costs given their business relation with the firm. Further, if active institutional investors can be counted on to closely monitor management then boards may not need to be as independent. Previous research supports this notion as Jiambalvo, Rajgopal and Ventkatchala (2002) find blockholders are efficient external monitors of accounting quality and can substitute for an independent audit committee. However, they did not differentiate between investor type or the size of their investment in the firm.

H2d: The size of passive institutional investment is positively associated with board monitoring.

Risk and return

It is plausible that institutional investors influence firm risk taking by asserting pressure for short-term returns. Stein (1989) suggests that the more managers are concerned about the current share price, the more they focus on short-term profits. If the market reacts positively to increased risk, then managers' investment behaviour tends towards the pursuit of maximizing the firm's short-term returns such as earnings per share. However we posit that the association between risk and return depends on the type of relationship the institutional investor has with the firm. We posit that active institutional shareholders are more likely to pressure management for short-term returns as they are not restricted by a business association with the firm and are more likely to influence proxy voting if their demands are not met.

Prior US research finds that institutional investors with no business relations with the investee firm are more active in voting on antitakeover amendments (Brickley, Lease and Smith, 1988) and influence firm innovation (Kochhar and David, 1996) suggesting that passive institutional investors have no impact on managerial choices. Further, the size of the institutional investor's ownership means they may have some ability to influence proxy voting (Johnson, Schnatterly, Johnson and Chiu, 2010). Subsequently, we expect a positive association between risk and return depends on the size of active institutional investment. We do not expect such pressure to be exerted by passive investors and therefore expect that a significant association between risk and return does not depend on the size of passive institutional investment. Based on the preceding discussion, the following hypothesis is posited:

H3: A positive association between risk and return depends on the type and size of institutional investment.

Method

Sample selection

Australia has the fourth-largest investment market in the world and pension funds control about 75% of Australia's investment capital. Consequently, a study of the relationship between institutional investors and Australian firms provides an important contribution to an economically important area of research. The sample was constructed from the Top 400 firms in terms of market capitalisation listed on the ASX, which was reduced to 316 as firms as each firms is required to be in Top 400 for each 2006-2008 and to lag variables into 2009. The sample was further reduced due to lack of institutional investor data for some companies. The final sample consists of an unbalanced panel data set of 246 firms listed on the Australian Securities Exchange for the years 2006 to 2008 (669 observations) based on the availability of the relevant data. Ownership data is collected from the Osiris data base and archival data on firms' corporate governance characteristics is hand collected from the company annual reports. Financial variables are provided by Aspect FinAnalysis. Risk measures are obtained from the Centre for Research in Finance (CRIF) risk measurement service of the Australian School of Business, University of New South Wales.

Research Model

We formally investigate H1 and 2 using random effects generalised least square (GLS) regression estimated with clustered-robust (also referred to as Huber-White) standard errors to control for any serial dependence in the data (Gow, Ormazabal, and Taylor, 2010; Petersen, 2009). The results of the Hausman test determine that a random effect generalised

least squares (GLS) regression model is appropriate to test the panel data. Panel data is often cross-sectionally and serially correlated thereby violating the common assumption of independence in regression errors (Gow et al. 2010). Hence, clustered standard errors are unbiased as they account for the residual dependence (Petersen, 2009). According to Petersen's (2009) simulations, clustered robust standard errors are correct in the presence of year effects (if year dummies are included), with no assumed parametric structure for within-cluster errors, so that the firm effect can vary both spatially and temporally.

We use 2SLS GLS random effects instrumental variables to test H3. We instrument variables that are likely to be associated with return but not related to governance practices. We test the impact of increasing institutional ownership on firms' returns by considering the interaction between the size of institutional investment and risk. We test the size of institutional investment by including a square term for both types of ownership. We expect that, when institutional investors own a small proportion of in the firm shares, a positive association between risk and return does not depend on the type of institutional investor. However, when institutional investors own a large proportion of the firm shares (ACTIVESQ; PASSIVESQ), we expect that a positive association between risk and return depends on ACTIVESQ. With this ownership concentration, active institutional investors have the incentive and ability to pressure management to increase short-term returns (EPS) and we expect a positive association between the interaction term and the subsequent year's performance (EPSt+1).

The models for testing the hypotheses are:

$$\text{INSTITOWN} = \beta_0 + \beta_1\text{CGSCORE} + \beta_2\text{EPSt} + \beta_3\text{ROAt} + \beta_4\text{LEVERAGE} + \beta_5\text{LNMKTCAP} + \beta_6\text{MBVA} + \beta_7\text{STDEV} + \varepsilon \quad (1)$$

$$ACTIVEOWN = \beta_0 + \beta_1 RISKMGT + \beta_2 BDINDEP + \beta_3 BDSIZE + \beta_4 DUAL + \beta_5 AUDITOR + \beta_6 EPSt + \beta_7 LEVERAGE + \beta_8 LNMKTCAP + \beta_9 MBVA + \beta_{10} STDEV + \varepsilon. \quad (2)$$

$$PASSIVEOWN = \beta_0 + \beta_1 RISKMGT + \beta_2 BDINDEP + \beta_3 BDSIZE + \beta_4 DUAL + \beta_5 AUDITOR + \beta_6 EPSt + \beta_7 LEVERAGE + \beta_8 LNMKTCAP + \beta_9 MBVA + \beta_{10} STDEV + \varepsilon. \quad (3)$$

$$EPS\ t+1 = \beta_0 + \beta_1 RISKMGT + \beta_2 BDINDEP + \beta_3 BDSIZE + \beta_4 DUAL + \beta_5 AUDITOR + \beta_6 EPSt + \beta_7 STDEV + \beta_8 ACTIVEOWN + \beta_9 PASSIVEOWN + \beta_{10} ACTIVEOWN*STDEV + \beta_{11} PASSIVEOWN*STDEV + \beta_{12} ACTIVESQ + \beta_{13} PASSIVESQ + \beta_{14} ACTIVESQ*STDEV + \beta_{15} PASSIVESQ*STDEV + \varepsilon. \quad (4)$$

Dependent variables

Following Almazan, Hartzell and Starks (2005), institutional investors are categorized into two groups based on their potential business relations with the firms in which they invest. The first group is defined as passive owners, due to the potential business relations with firms they may be susceptible to pressure from management. Osiris classifications are used; with potentially passive institutions including banks and insurance companies. The second group is defined as active owners, due to our expectation that they will not have significant potential business relations with firms and are therefore not susceptible to pressure from management. These institutions include pension funds, other financial companies and hedge funds. For each category of institution, institutional investment is computed as the proportion of institutional investors' shares of total shares outstanding. The proportion of banks and insurance companies' ownership is added together (PASSIVEOWN) and the proportion of pension funds and other financial institutions' ownership is added together (ACTIVEOWN).

Although there are various measures of firm performance used in prior research, this study uses the firms' earnings per share (EPS) because (1) income-based risk is used in the analysis and EPS also reflects the income of the firm, (2) EPS is likely to be influenced by the firm's managerial risk-taking behaviour, (3) it is a short-term measure of performance as it is based on annual returns, and (4) it is a performance measure that is common amongst all firms thus allowing comparability.

Explanatory variables

Risk

Risk is the total risk of the firm and is measured as the standard deviation of the firm's daily stock returns for each fiscal year STDEV. It is measured as the standard deviation of the rate of return on equity for the company and is expressed as a rate of return per month computed from the (continuously compounded) equity rates of return for the company's equity.[5]

Corporate governance

We use a comprehensive measure of corporate governance (CGSCORE), which is a rating system of corporate governance compiled by the University of Newcastle referred to as the Horwath Report. It contains corporate governance rankings for Australia's top 400 companies by market capitalisation as at 30 June. The rankings are based on information about the Board and its principal committees that is contained in the companies' Annual Reports and related party disclosures. The index is calculated in the same manner for all companies irrespective of their size. The rating consists of a scoring system for several

[5] It is measured over the four-year period ending at the companies' annual balance date. All measurable monthly returns in the four-year interval are included. Individual monthly returns measure total shareholder returns for the company, including the effects of various capitalization changes such as bonus issues, renounceable and non-renounceable issues, share splits, consolidations, and dividend distributions.

categories of governance (see appendix1). The factors are identified with reference to national and international best practice guidelines and research studies. The maximum score for 2006 and 2007 is 125 and 135 for 2008. We therefore divide the score by 125 and 135 respectively to standardise the governance rating. We then identify five components from the governance data: risk management (RISKMGT), board independence (BDINDEP), board size (BDSIZE) and CEO duality (DUAL), and top-tier auditor (AUDITOR)) to determine whether governance characteristics differ in importance for institutional investors.

Risk management. Companies are classified into one of three groups depending on the rigour of their Enterprise Risk Management (ERM) strategies as determined from their disclosures as required by ASX. Highest ranked are companies with formal ERM policies with oversight delegated to a dedicated committee separate from the board (ranked 2), next ranked are companies with formal ERM policies but no separate committee oversight (ranked 1) and companies with no formal ERM policies are ranked lowest (0).

Board independence. Board independence is assessed according to compliance with the ASX CGC (2007) definition of an independent director. Evaluation of independence is made from information disclosed in either the corporate governance statement, related party note in the financial statements or the director's report in the company's annual report. The measure is based on the proportion of independent directors on the board (Vafeas, 2003; Anderson and Bizjak, 2003).

Board size. There are two schools of thought with regard to optimal size. As size increases, so does the incremental cost of poorer communication, diffusion of responsibility and ineffective decision making (Yermack, 1996). Conversely, a larger board may bring a greater depth of knowledge and diverse skills essential for monitoring. Consistent with prior

research, this study measures board size (BDSIZE) as the total number of members (e.g. Petra and Dorata, 2008).

CEO duality. Details of directors occupying the roles of CEO and board chair were obtained from the Directors' Report disclosures in the company annual report. CEO duality (DUAL) is a dummy variable 1 when the CEO is also the chair, 0 otherwise.

Top-tier auditor. Four top-tier audit firms operated during the period of review. They consisted of KPMG, PriceWaterhouseCoopers, Deloitte Touché Tohmatsu and Ernst and Young. All other audit firms were classified as non top-tier. Company auditor was identified from the Audit Report. This is a dummy variable coded 1 when the auditor is top-tier, 0 otherwise.

Control variables

We use the current years reported earnings per share before abnormal items (EPS_t) as it is likely to have an impact on the size of either institutional investment or performance (EPS_{t+1}). Firm size is often included as a control variable in previous corporate governance studies (e.g., Pathan, 2009) as an increase in firm size is likely to lead to greater monitoring and hence the greater need for corporate control mechanisms. We measure size as the log of market capitalisation (LNMKTCAP). Consistent with previous research (e.g. Pathan, 2009) financial leverage (LEVERAGE) is also included as a control variable as it is an important determinant of a company's risk of bankruptcy and greater need for monitoring. We also control for firm profitability (return on assets, ROA) and growth opportunities (market to book value of equity, MBVE). High growth firms' investments may not come to fruition for some time in the future. Velury et al. (2003) suggests that institutional investors are more likely to invest in firms with higher profitability than growth opportunities. Their results were in the predicted direction but were not significant.

Results

Table 1 reports the descriptive statistics for the variables related to institutional investment, firm governance and financial performance characteristics for the three years. The results show that there is very little change in the governance variables over time and this is to be expected (see Brown et al., 2011). However, there is considerable growth in institutional investment from 2006 with a mean of 41% of issued shares to 2008 where institutional investment is 70% of issued shares on average. Total risk (STDEV) was 10% in 2006 growing to 13% in 2008.

The results of correlating the untransformed variables are reported in Table 2. There are significant correlations with the CGSCORE and most of the variables. Consequently, VIF statistics were run to test the issue of multicollinearity. The VIFs were all below 3 indicating that multicollinearity is not an issue with the data.

3.4. GLS Regression results

The results of testing H1 are reported in Table 3. The results show a positive and significant association between the CGSCORE and the size of institutional investors' investment (B = 54.979; p = 0.000)[6], thus supporting H1. We also find a positive and significant association between risk (STDEV) and the size of institutional investment (B = 1.325; p = 0.000) which suggests that institutional investors invest in firms with higher risk with the anticipation of higher returns, thus supporting H2a. The results also show that the size of institutional investment is positively associated with ROA and negatively associated with investment

[6] There was a positive and significant association between the CGSCORE and the level of institutional ownership for each type of investor when the tests were run separately for each type of investor.

opportunities MBVE. This result is consistent with Velury et al. (2003) suggesting that institutional investors prefer profitability over future returns.

Next, institutional investors are separated into active and passive investors and to determine some of the governance characteristics that are important to each type of investor (H2b to H2d). Risk management and a top-tier auditor are valuable to both active and passive institutional investors to meet monitoring and fiduciary duties, thus supporting H2b and H2c. Board independence is only significantly associated with the size of passive institutional investment supporting H2d. More independent boards are likely to challenge management decisions thus reducing the monitoring costs of passive institutional investors and alleviating any problems they may face in directly challenging management.

Before testing H3, we test the main effects of institutional investment and firm performance by running the regression without the interaction terms. We find that increasing the size of active institutional investment from a small proportion of firms' shares is positively associated with EPSt+1 at the 10 percent level. Increasing the size of active institutional investment from high levels (ACTIVESQ) is negatively associated with EPSt+1. The size of passive institutional investment is not associated with returns. The corporate governance score is not significantly associated with EPSt+1 while there is a negative and significant association between risk and return (B = -1.476; p = 0.000).

The results of testing H3 using 2SLS regression are reported in the last two columns of Table 3. We turn our attention to the interaction terms to determine whether the type or size of institutional investment has any impact on the risk/return relationship. There is a negative association between risk (STDEV) and return (EPSt+1) for firms with low active institutional investment. However, interacting active institutional investment squared with risk results in a positive association between risk and return. This result means that a positive association

between risk and return depends on the size of ownership of active institutional investors. The result suggests that active institutional investors with large ownership pressure management to adopt strategies that result in short-term returns. Future research could determine whether this is at the expense of long-term investment strategies as indicated by the negative association between institutional investment and growth opportunities found in this study.

The results also show a positive and significant association between the corporate governance score and EPSt+1 at the 10 percent level. However, the individual governance measures are not significantly associated with EPSt+1.

Robustness tests

As an alternative measure of performance we use ROE and ROA. ROA provides results similar to EPS while ROE fails to provide any significant results. We also split the sample at the mean of MBVE to test whether the associations between risk and return and institutional investors found in this study also depend on whether the firm is a high or low growth firm. There were no significant associations between risk and return for passive or active institutional investment for either high or low growth firms. Finally, given that we find a significant positive association between the corporate governance score and returns (EPSt+1) we interact institutional investment with the corporate governance score and returns for active and passive investors. However, the results reveal that the positive association between corporate governance and return does not depend on the type or size of institutional investor. However, splitting the sample at the median of the CGSCORE (0.696) we find that the associations between risk and return that depend on the size of active institutional investment only hold for low governance quality firms (less than 0.696). There are no significant associations for high governance quality firms.

Conclusion

Institutional investors are an important component of capital markets, especially in times of increasing risk. However, there are significant differences among institutional investors and the institutional context in which they exist. First, this study shows that firms' corporate governance practices are an important determinant of the size of institutional investment. We find that the fraction of firms' shares held by institutional investors increases with a comprehensive measure of governance quality, regardless of the type of institutional investor. Further investigation shows that risk management and top-tier auditors are important to all types of institutional investors; however, board monitoring is only important to institutional investors with a business relationship with the firm.

Kashyap, Rajan and Stein (2008) suggest that the global financial crisis resulted from excessive risk-taking, highlighting the importance of monitoring risk. In the period leading up to the global financial crisis, investors sanctioned high levels of risk in the pursuit of high returns. Consequently, it is important to determine whether institutional investors differ in their ability to influence managements' pursuit of short-term returns. We categorize institutional investors based on their ability to influence management. The ability to influence management depends on the size of the investment and whether the firm has or could have business dealings with the investor. Further, the results of this study show that the size of institutional investment is associated with firm risk (standard deviation of returns) and profitability (return on assets).

We find that a positive association between risk and short-term returns (earnings per share or return on assets) depends on high active institutional investment. Active institutional investors with large equity have incentives and possess the potential to influence

management. Our results suggest that large active institutional shareholders exert pressure on management to increase short-term returns. In contrast, when active institutional investment is low, there is a negative association between risk and return. The results suggest that when active institutional investors have insufficient power to influence management, long-term returns may be more important to management. The risk-return relationship does not depend on passive institutional investment. Consequently, our results highlight that the ability of market forces (institutional investors) to influence short-term returns depends on the type and size of institutional investment.

References

Aguilera, R.V., Rupp, D. E., Williams, C. A., and Ganapathi, J. (2007). Putting the S back in CSR: A multi-level theory of social change in organizations. *Academy of Management Review,* 32 (3): 836-863.

Ajinkya, B., Bhojraj S., and Sengupta, P. (2005). The association between outside directors, institutional investors and the properties of management earnings forecasts. *Journal of Accounting Research,* 43(3): 343-376.

Alchian, A. A., and Demsetz, H. (1972), Production, information costs, and economic organization. *The American Economic Review*, 62(5): 777-795.

Almazan, A., Hartzell, J., and Starks, L. (2005). Active institutional shareholders and managerial compensation. *Financial Management*, 34: 5-34.

Anderson, R. C., and Bizjak, J. M. (2003). An empirical examination of the role of the CEO and the compensation committee in structuring executive pay. *Journal of Banking and Finance, 27*(7): 1323-1348.

Association of Superannuation Funds of Australia (2003). Active share ownership guidelines for superannuation fund trustees. *ASFA Best Practice Paper 17,* Available at www.superannuation.asn.au/ArticleDocuments/116/bp17.pdf

Australian Security Exchange Corporate Governance Council. (2007). *Corporate Governance Principles and Recommendations* (2 ed.). Sydney: Australian Security Exchange Corporate Council.

Balsam, S., Krishnan, J., and Yang, J. S. (2003). Auditor industry specialization and earnings quality. *Auditing: A Journal of Practice & Theory,* 22: 71-97.

Bartov, E., Gul, F.A., and J. S. L. Tsui. (2000). Discretionary-accruals models and audit qualifications. *Journal of Accounting and Economics,* (December): 421-452

Baysinger, B.D., and Hoskinson, R. (1990). The composition of boards of directors and strategic controls: Effects on corporate strategy. *Academy of Management Review*, 15(1): 72-87.

Baysinger, B.D., Kosnik, R.D., and Turk, T.A. (1991). Effects of board and ownership structure on corporate strategy. *Academy of Management Journal*, 34(1): 205-214.

Beasley, M. S., and Petroni, K. R. (2001). Board independence and audit-firm type. *Auditing*, 20: 97-114.

Beekes, W. and Brown, P. (2006). Do better-governed Australian firms make more informative disclosures? *Journal of Business Finance*, 33(3&4): 422-450.

Black, B S. (1998) Shareholder activism and corporate governance in the United States, in Newman, P., Ed, *The New Palgrave Dictionary of Economics and the Law*, Stockton Press: New York.

Borokhovich, K., Brunarski, K., Harman, Y., and Parrino, R. (2006). Variation in the monitoring incentives of outside stockholders. *Journal of Law and Economics,* 49:651–98.

Brickley, J., Lease, R., and Smith, C. (1988). Ownership structure and voting on antitakeover amendments. *Journal of Financial Economics*, 20: 267-292.

Brown, P., Beekes, W., and Verhoeven, P. (2011). Corporate governance, accounting and finance: A review. *Accounting and Finance*, 51(1): 96-172.

Bushee, B. J. (1998). The influence of institutional investors on myopic R&D investment behaviour. *Accounting Review*, 73: 305–33.

Bushee, B.J. and Noe, C. (2000). Corporate disclosure practices, institutional investors and stock return volatility. *Journal of Accounting Research*, 38(supplement): 171-202.

Byun, H-Y., Hwang, L-S., and Lee, W-J. (2011). How does ownership concentration exacerbate information asymmetry among equity investors? *Pacific-Basin Finance Journal*, 19: 511–534.

Carcello, J. V., and T. L. Neal. (2000). Audit committee composition and auditor reporting. *The Accounting Review*, 75 (October): 453-467.

Carter, D., D'Souza, F., Simkins, B., and Simpson, W.G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review*, 18(5): 396–414.

Chen, X., Harford, J., and Li, K. (2007). Monitoring: Which institutions matter? *Journal of Financial Economics*, (86), 279-305.

Chung, K.H., and Zhang, H. (2011). Corporate governance and institutional ownership, *Journal of Financial and Quantitative Analysis*, 46(1): 247–273.

Da Silva Rosa, R., Filippetto, J., and Tarca A. (2008) ASIC actions: canaries for poor corporate governance? *Accounting Research Journal*, 21(1): 67–86.

Dechow, P. M. and Sloan, R. G. (1991). Executive incentive and horizon problem. *Journal of Accounting and Economics,* 14(1): 51-89.

Dechow, P. M., Sloan, R.G., and Sweeney, A. (1996). Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research*, 13: 1-36.

DeFond, M.L., and Subramanyam, K.R. (1998). Auditor changes and discretionary accruals. *Journal of Accounting and Economics*, 25(1): 35-67.

Dunn, K., Mayhew, B., and Morsfield, S. G. (2004). Auditor industry specialization and client disclosure quality. *Review of Accounting Studies,* 9(1): 35-58.

Efendi, J., Srivastava, A., and Swanson, E.P. (2007). Why do corporate managers misstate financial statements? The role of in-the-money options and other incentives, *Journal of Financial Economics*, 85:667-708.

Fama, E., and Jensen, M. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26: 301-325.

Forker, J.J. (1992). Corporate governance and disclosure quality. *Accounting and Business Research*, 22:111-24.

Gillan, S. L., and Starks, L. T. (2003). Institutional investors, corporate ownership, and corporate governance: Global perspectives. In Sun, L. (ed.), *Ownership and Governance of Enterprises: Recent Innovative Developments*. New York: Palgrave/Macmillan, 36–68.

Gillan, S. L., Starks, L. T., (1998). A survey of shareholder activism: Motivation and empirical evidence. *Contemporary Finance Digest*, 2, 10-34.

Gillan, S. L., and Starks, L. T. (2007). The evolution of shareholder activism in the United States. *Journal of Applied Corporate Finance*, 19:55–73.

Goodwin, J., Ahmed, K. and Heaney, R.A. (2009). Reporting the impact of the adoption of international financial reporting standards in Australia: Does corporate governance help us to understand reporting behaviour? *ABACUS*, 45(1): 124-145.

Gordon, J.N. (2010). Executive compensation and corporate governance in financial firms: The case for convertible equity-based pay. *Columbia Law and Economics Working Paper No. 373* available on http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1633906

Gow, I.D., Ormazabal, G., and Taylor, D.J. (2010). Correcting for cross-sectional and time-series dependence in accounting research. *The Accounting Review*, 85(2), 483-512.

Graves, S.B. (1988). Institutional ownership and corporate R&D in the computer industry. *Academy of Management Journal*, 31(2), 417-428.

Hampel Committee (Committee on Corporate Governance (Sir Ronald Hampel, chair)). (1998). *Final Report*, Gee Publishing: London.

Hawley, J.P. and Williams, A.T. (2000). *The Rise of Fiduciary Capitalism: How Institutional Investors Can Make Corporate American More Democratic.* University of Pennsylvania Press.

Healy, P.M. and Palepu, K.G. (2001). A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1-3): 405-440.

Horwath (2006). *Corporate Governance Report*, Horwath Pty Ltd, Sydney, Australia.

Horwath (2007). *Corporate Governance Report*, Horwath Pty Ltd, Sydney, Australia.

Horwath (2008). *Corporate Governance Report*, Horwath Pty Ltd, Sydney, Australia.

Hsu, G.C.M. and Koh, P.-S. (2005). Does the presence of institutional investors influence accruals management? Evidence from Australia. *Corporate Governance*, 13(6):809-823.

Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance*, 48(3), 831-880.

Jensen, M. C., and Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3(4): 305-360.

Jiambalvo, J., Rajgopal, S. and Ventkatchala, M. (2002). Institutional ownership and the extent to which stock prices reflect future earnings. *Contemporary Accounting Research*, 19: 117–145.

Johnson, R.A., Schnatterly, K., Johnson S.G., and Chiu, S-C. (2010). Institutional investors and institutional environment: A comparative analysis and review. *Journal of Management Studies* 47(8): 1590-1613.

Johnson, P.E., Jamal, K., and Berryman, R.G. (1991). Effects of framing on auditor decisions. *Organizational Behavior and Human Decision Processes*, 50:75-105.

Kashyap, A., Rajan, R., and Stein, J. (2008). Rethinking capital regulation. *Working paper*. University of Chicago.

Kent, P. and Stewart, J. (2008). Corporate governance and disclosures on the transition to international financial reporting standards, *Accounting and Finance*, 48(4):649-672.

Kochhar, R. and David, P. (1996). Institutional investors and firm innovation, a test of competing hypotheses. *Strategic Management Journal*, 17:73–84.

Masulis, R. W., Wang, C. And Xie, F. (2007). Corporate governance and acquirer returns. *The Journal of Finance*, 62: 1851–1889

Mutchler, J.F., Hopwood, W., McKeown, J.C. (1997). The influence of contrary information and mitigating factors on audit opinion decision on bankrupt companies. *Journal of Accounting Research*, 35: 295–310.

Noe, T. (2002). Investor activism and financial market structure. *Review of Financial Studies*, 15(1): 289-318.

Palmrose, Z. (1988). An analysis of auditor litigation and audit service quality. *The Accounting Review*, (January): 55-73.

Parrino, R., Sias, R. W., and Starks, L. T. (2003). Voting with their feet: Institutional investors and CEO turnover. *Journal of Financial Economics, 68: 3-46.*

Pathan, S. (2009). Strong boards, CEO power and bank risk-taking. *Journal of Banking and Finance, 33*(7): 1340-1350.

Petersen, M. (2009). Estimating standard errors in financial panel data sets: Comparing approaches. *The Review of Financial Studies*, 22(1): 435-480.

Petra, S. T., and Dorata, N. T. (2008). Corporate governance and chief executive officer compensation. *Corporate Governance: An International Review,* 8(2), 141-152.

Pincus, K., Rusbarsky, M., and Wong, J. (1989). Voluntary formation of corporate audit committee among NAS-DAQ firms. *Journal of Accounting and Public Policy*, 8(4), 239-265.

Shleifer, A., and Vishny, R. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94:461–88.

Solomon, J. F. and Solomon, A. (2006) Private social, ethical and environmental disclosure. *Accounting, Auditing & Accountability Journal,* 19(4): 564-591.

Stapledon, G.P. (1996). Disincentives to activism by institutional investors in listed Australian companies. *Sydney Law Review*, 18: 152-192.

Stein, J.C. (1989). Efficient capital markets, inefficient firms: A model of myopic corporate behaviour. *The Quarterly Journal of Economics*, 104(4): 655-669.

Subramaniam, N., McManus, L., and Zhang, J. (2009). Corporate governance, firm characteristics and risk management committee formation in Australian companies. *Managerial Auditing Journal,* 24(4), 316-339.

Teoh, S., and Wong, T. (1993). Perceived auditor quality and the earnings response coefficient. *The Accounting Review*, 68(2): 346-67.

Vafeas, N., (2003). Length of board tenure and outside director independence. *Journal of Business Finance and Accounting,* 30 (7–8): 1043–1064.

Velury, U, Reisch, J.T., and O'Reilly, D.M. (2003). Institutional ownership and selection of industry specialist auditors. *Review of Quantitative Finance and Accounting*, 21: 35-48.

Wahal, S., and McConnell, J.J. (2000). Do institutional investors exacerbate managerial myopia? *Journal of Corporate Finance*, 6: 307–329.

Walker, D. (2009). *A review of corporate governance in UK banks and other financial industry entities: Final recommendations*. Retrieved 20 May 2010. from http://www.hm-treasury.gov.uk/d/walker_review_261109.pdf.

Watts, R., and Zimmerman, J., (1981). The markets for independence and independent auditors. Working Paper, University of Rochester.

Webb, R., Beck, M., and McKinnon, R. (2003) Problems and limitations of institutional investor participation in corporate governance. *Corporate Governance: An International Review*, 11: 65-73.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics* 40:185–211.

Appendix 1

BOARD OF DIRECTORS	
Independence	
Board Chair and CEO	
Board size	
Board Meetings	
AUDIT COMMITTEE	
AC Exists	
AC Independence	
AC Chair	
AC Number Meetings	
AC Size	
AC Financial Expertise	
REMUNERATION COMMITTEE	
RC Exists	
RC Independence	
RC Chair	
RC Size	
NOMINATION COMMITTEE	
NC Exists	
NC Independence	
NC Chair	
NC Size	
EXTERNAL AUDIT	
Non-audit Fees	
RISK MANAGEMENT	
ERM policies with oversight delegated to a dedicated committee separate from the board (2) *formal ERM policies but no separate committee oversight (1)* *no formal ERM policies (0).*	
DIRECTOR CONDUCT/ TENURE& DISCLOSURE	
Code of Conduct *Independent directors have tenure < 10 years*	
Restrictive Share Trading policy	
General Corporate Governance Disclosure	
TOTAL SCORE	

Table 1: Descriptive statistics

Variable-Continuous	2006 (N=213)			2007 (N=235)			2008 (N=245)		
	Mean	Median	Std.dev	Mean	Median	Std.dev	Mean	Median	Std.dev
INSTITOWN	41.23%	35.58%	31.54%	45.83%	39.38%	35.36%	69.89%	66.08%	46.84%
PASSIVEOWN	6.01%	1.69%	8.21%	10.38%	6.60%	11.86%	13.81%	10.28%	14.11%
ACTIVEOWN	35.19%	32.13%	27.38%	35.45%	31.23%	28.05%	56.08%	50.46%	37.51%
CGSCORE	0.656	0.664	0.012	0.690	0.712	0.012	0.700	0.715	0.012
BIND	49.80%	50.00%	22.20%	51.10%	50.00%	22.90%	51.00%	50.00%	24.20%
BSIZE	6.35	6.00	2.13	6.427	6.00	2.08	6.46	6.00	2.04
EPS_t	37.129	17.550	68.072	46.987	21.500	89.289	39.578	20.100	95.725
ROAt	0.056	0.071	0.185	0.065	0.070	0.160	0.065	0.066	0.129
LEVERAGE	2.503	1.831	4.133	2.446	1.944	3.451	2.380	1.892	2.908
MKTCAP(Smillions)	3479	421	13618	4560	657	17439	3788	483	15968
MBVA	4.673	2.875	8.176	4.993	3.190	6.515	2.943	1.950	3.635
STDEV	10.272	8.500	5.965	9.990	8.400	5.610	13.369	11.500	6.672
Variable-Dichotomous		No. of firms in sample	% of sample	Coding	No. of firms in sample	% of sample	Coding	No. of firms in sample	% of sample
RISK MGT	0	39	12.3%	0	30	9.5%	0	39	12.3%
	1	108	34.2%	1	99	31.3%	1	108	34.2%
	2	169	53.5%	2	187	59.2%	2	169	53.5%
AUDITOR	1	249	78.8%	1	253	80.1%	1	260	82.3%
DUAL	1	26	8.2%	1	25	7.9%	1	28	8.9%

Definitions:
INSTITOWN: All institutional ownership divided by total issued shares; *PASSIVEOWN*: Bank and insurance company ownership divided by total issued shares; *ACTIVEOWN:* Pension funds, financial companies and hedge fund ownership divided by total issued shares; CGSCORE: firms total score divided by maximum score; *BDIND*: number of independent directors divided by board size; *BDSIZE*: number of directors on the board; *RISKMGT*: Dummy variables 2 = rigorous RM policies with oversight of a dedicated (separate) committee, 1 = formal RM policies but no separate committee oversight (oversight by board), 0 = no formal RM policies (or dedicated committee oversight); *AUDITOR*: Dummy variable 1 if audited by top-tier auditor, 0 otherwise; *DUAL:* Dummy variable 1 if CEO is also chair of the board, 0 otherwise.

Table 2: Pearson Correlations for untransformed variables (N = 698)

	CGSCORE	*STDEV*	*ALLINSTIT*	*PASSIVE*	*ACTIVE*	*EPSt*	*ROAt*	*LEV*	*MKTCAP*	*MBVE*
CGSCORE	1.000									
STDEV	-0.310**	1.000								
INSTITOWN	0.386**	-0.113**	1.000							
PASSIVE	0.361**	-0.058	0.723**	1.000						
ACTIVE	0.343**	-0.117**	0.966**	0.519**	1.000					
EPSt	0.203**	-0.261**	0.091*	0.025	0.104**	1.000				
ROAt	0.166**	-0.360**	0.168**	0.110*	0.166**	0.299**	1.000			
LEV	0.180**	-0.066	0.062	0.063	0.053	0.120**	-0.015	1.000		
MKTCAP	0.189**	-0.112**	0.063	0.025	0.069	0.421**	0.097*	0.064	1.000	
MBVE	-0.020	0.168**	-0.042	-0.029	-0.042	0.046	0.085*	0.361**	0.015	1.000

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed).

CGSCORE: firms total score divided by maximum score; *STDEV:* total risk is calculated as the standard deviation of firm daily stock returns for each fiscal year; *INSTITOWN:* total institutional investors ownership divided by total issued shares; *PASSIVEOWN:* Bank and insurance company ownership divided by total issued shares; *ACTIVEOWN:* Pension funds, financial companies and hedge fund ownership divided by total issued shares; *EPSt:* current year's reported earnings per share before abnormal items; *ROAt:* [Net Income + Interest Expense*(1-Corporate Tax Rate)]/[Total Assets - Outside Equity Interests]; *LEV:* Total assets / shareholders equity; *MKTCAP:* Closing share price on the last day of the company's financial year * number of shares outstanding at the end of the period; *MBVE:* closing share price on the last day of the company's financial year / shareholders equity per share.

Table 3 Random effects GLS regression with cluster robust standard errors; G2SLS random-effects IV regression

	INSTIT OWN	*ACTIVE OWN*	*PASSIVE OWN*	*EPSt1*	*EPSt1*	
	Coef	Coef.	Coef.	Coef.	Coef	Coef.
CONSTANT	-19.416	-9.410	-14.244	-22.823	-39.279	-35.733
	(-1.93)*	(-1.08)	(-4.77)***	(-1.70)*	(-1.49)	(-1.35)
CGSCORE	54.979			9.300	19.665	
	(6.21)***			(0.84)	(1.81)*	
RISKMGT		6.984	2.503			-0.570
		(2.99)***	(3.10)***			(-0.15)
BDIND		10.060	12.490			13.672
		(1.31)	(4.60)***			(1.42)
BDSIZE		2.110	0.090			1.023
		(2.02)**	(0.26)			(0.89)
AUDITOR		11.00	2.522			0.689
		(2.78)***	(1.73)*			(0.13)
DUAL		-1.886	-0.088			-3.107
		(-0.39)	(-0.05)			(-0.45)
EPSt	0.023	0.023	-0.012	0.552	0.687	0.675
	(0.75)	(0.66)	(-1.55)	(14.10)***	(19.29)***	(17.66)***
ROAt	31.700	25.974	7.180	-12.917		
	(2.29)**	(2.12)**	(1.77)*	(-0.76)		
LEV	0.879	0.530	0.037	-0.772		
	(1.23)	(1.01)	(0.29)	(-1.31)		
LNMKTCAP	13.200	1.613	5.533	32.69		
	(2.04)**	(0.28)	(2.73)***	(4.02)***		
MBVE	-0.871	-0.551	-0.137	0.407		
	(-2.98)***	(-2.51)**	(-2.34)**	(1.19)		
STDEV	1.325	1.005	0.388	-1.476	2.606	2.391
	(4.36)***	(3.91)***	(4.34)***	(-4.02)***	(1.41)	(1.24)
ACTIVEOWN				0.320	2.089	1.988
				(1.85)*	(2.53)**	(2.35)**
PASSIVEOWN				-0.526	0.827	0.800
				(-1.14)	(0.84)	(0.81)
ACTIVEOWN STDEV*					-0.139	-0.131
					(-2.15)**	(-1.96)*
PASSIVEOWN STDEV*					-0.125	-0.120
					(-1.42)	(-1.34)
ACTIVESQ				-0.003	-0.018	-0.017
				(-2.33)**	(-2.66)***	(-2.49)**
PASSIVESQ				0.004	0.014	-0.015

				(0.38)	(-0.62)	(-.062)
ACTIVESQ STDEV*					0.001	0.001
					(2.18)**	(2.01)**
PASSIVESQ STDEV*					0.002	0.002
					(0.84)	(0.82)
N observations	669	668	688	669	669	668
Firms	246	246	246	246	246	246
Wald chi2	48.44***	96.92***	126.51***	484.14***	590.39***	589.68***
R2	16%	14%	19%	49%	46%	47%

p>0.01:***p>0.05:**p>0.10*

Definitions:

INSTITOWN: total institutional investors ownership divided by total issued shares; *ACTIVEOWN:* Pension funds, financial companies and hedge fund ownership divided by total issued shares; *PASSIVEOWN*: Bank and insurance company ownership divided by total issued shares; *EPSt+1*: following years reported earnings per share before abnormal items; *CGSCORE:* firms total score divided by maximum score; *RISKMGT*: Dummy variables 2 = rigorous RM policies with oversight of a dedicated (separate) committee, 1 = formal RM policies but no separate committee oversight (oversight by board), 0 = no formal RM policies (or dedicated committee oversight); *BDIND*: number of independent directors divided by board size; *BDSIZE*: number of directors on the board; *AUDITOR*: Dummy variable 1 if audited by top-tier auditor, 0 otherwise; *DUAL*: Dummy variable 1 if CEO is also chair of the board, 0 otherwise. *EPSt:* current years reported earnings per share before abnormal items; *ROAt:* [Net Income + Interest Expense*(1-Corporate Tax Rate)]/[Total Assets - Outside Equity Interests]; *LEV:* Total assets / shareholders equity; *LNMKTCAP:* Closing share price on the last day of the company's financial year * number of shares outstanding at the end of the period, logged; *MBVE:* closing share price on the last day of the company's financial year / shareholders equity per share; *STDEV:* total risk is calculated as the standard deviation of firm daily stock returns for each fiscal year; *ACTIVEOWN*STDEV:* interaction term; *PASSIVEOWN*STDEV*: interaction term; *ACTIVESQ*: active ownership squared; *PASSIVESQ*: passive ownership squared; *ACTIVESQ*STDEV:* interaction term; *PASSIVESQ*STDEV*: interaction term;